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FOREWORD

I have not made any general change in the make-up of my little nut catalogue or given as much space to it as I would like to do, because printing and engraving is much higher than formerly and are a considerable item of expense with me. Also, my stock of nut trees, being considerably reduced, can be easily sold without any extensive selling campaign.

I have, however, added four more pages and a number of new illustrations made direct from photographs taken here and I hope these prove of interest and helpful to those wanting to plant nut trees but who have been undecided as to what to plant. With thousands of my budded and grafted trees coming into bearing all over the country the past few years interest in nut culture has increased by leaps and bounds. I had many visitors here the past two seasons and they went away seemingly much impressed with the bearing English and black walnut, pecan, shagbark, heart nut, filberts and hazels.

I wish to thank my customers and friends for past favors and solicit your future orders with the assurance that they will receive the same careful attention that they have in the past.

TERMS AND SUGGESTIONS

VISITORS. I am always glad to welcome visitors who are interested in nut trees. The best time to see the trees in bearing is in the late summer. English walnuts and filberts ripen early in September. Black walnuts, shagbarks and pecans ripen in October. The Quarryville and Strasburg Trolley cars leaving Lancaster every half hour pass the nurseries.

MY NURSERIES ARE LOCATED three miles south of Lancaster in a section noted for its fine farms and productive soil. We have the main lines of the Pennsylvania and Reading railroads which insures the prompt delivery of shipments at nominal rates.

WHEN TO PLANT. My hardy Pennsylvania Grown Trees may be planted either spring or fall. Trees may be planted any time they are dormant, (which is from October 1st to June 1st here) and the ground is not frozen hard. The usual shipping season is October 1st to December 20th in the fall and March 1st to June 1st in the spring. I can usually supply trees perfectly dormant out of my cellars, however, till June 15th to 20th.

REMITTANCES may be made in any way that is convenient. Personal checks from responsible parties accepted at par.

NON-GUARANTY. I guarantee all trees sent out to be of the size and quality specified, but like most other firms I do not guarantee trees to grow. I take this stand for the following reasons: In the first place, many people who plant trees guaranteed to grow, habitually neglect the trees for this very reason and never get any where. In the second place, the prices of the trees would have to be advanced to take care of the losses thus caused by careless planting and neglect, and this would not be fair to the man who plants and cares for his trees properly, since he would be helping to pay these unnecessary losses in which he had no part. I take extra pains to see that all trees sent out are well grown, true to label and in condition to live and grow, but since I have no influence over conditions surrounding the trees or over their planting and care, after they pass out of my hands, I can not assume responsibility for any customers losses resulting from failure to make the trees grow for any reason. Where customers receive trees from me that they feel are not up to my usual high standard, I will take it as a favor if they write me fully in the case and I am always glad to make good mistakes of any kind, but complaints or claims, to receive attention, must be made as soon as shipment has been received and inspected. Otherwise the transaction will be considered as closed and my books closed against it, and no claims thereafter will be entertained.

CORRESPONDENCE. I am always glad to give any one interested in nut trees any additional information that I can by correspondence, but I often get long letters from people asking many questions that are fully covered in my printed matter. Too often those writing these long letters do so simply from force of habit and are not really interested. The grafted and budded nut trees going out now have cost so much to grow that I have had to cut over-head expense to the minimum, and being a very busy man, I will thank those writing me to first read my printed matter carefully.

MY METHOD OF PACKING is far superior to that used generally in packing nursery stock and insures the delivery of trees in good condition to the most distant points. I have shipped trees to such remote countries as British South Africa and China, as well as all over the U. S. and have received many complimentary letters on the condition of the trees on arrival.

TREES PACKED FOR PARCEL POST are packed light, yet well protected from drying out by re-inforced, air-tight paper, and small shipments up to 300 miles can usually be sent cheaper in this way than by express. Unless the trees are cut back, however, we can not send trees larger than 2 to 3 feet Parcel Post. The postage on Parcel Post shipments is charged for when shipment is made where it is not sent with the order.

Future Crops Will Be Tree Crops

"Tree Crops" will be the slogan of the future, and the most important of these by far, are the nut bearing trees. The apple, peach and other soft fruits are good to eat to be sure, but they have little actual food value in comparison to nuts. Nuts are the most concentrated and complete natural food product known to man and require no preparation whatever, being ready to serve as the kernels come from the shell, or they may be combined with other food elements and made up into various attractive and delicious foods. Since nuts are very rich and have a high protein and fat content, they are admirably adapted to use with other foods, the most of which are deficient in these elements, and fit in well in almost any food combination.

DISTANCE FOR PLANTING. Pecans and black walnuts 50 to 60 feet apart; English walnuts 40 to 50 feet apart; filberts and almonds, 15 to 20 feet apart. Shagbarks 40 feet apart.

Pecans, English and black walnuts do not need all of the room given them for 12 or 15 years, and fillers of smaller growing nut or fruit trees may be planted between them to good advantage; also any cultivated farm or garden crop may be planted between the trees, as they are little in the way of cultivation for several years.

The Demand for Nuts

The production of nuts has not kept pace with consumption in this country and the demand very greatly exceeds the supply. If the supply of common wild nuts that go to make up the bulk of our supply at the present time were of fine budded or grafted sorts, consumption of nuts would be twenty times as great as it is today, provided, of course the supply was available, and at a reasonable price.

Importation of nuts into the U. S. increased from \$8,549,997.00 in 1909, to \$58,752,801.00 in 1920, as the following statistics show.

Value of nuts imported into the United States from 1909 to 1920 inclusive compiled by the Federal Department of Statistics:

1909	1910	1911	1912	1913	1914
\$ 8,549,997	\$12,775,196	\$14,265,572	\$15,626,485	\$13,508,307	\$19,815,713
1915	1916	1917	1918	1919	1920
\$16,865,244	\$20,594,434	\$33,667,681	\$49,930,283	\$57,499,040	\$58,752,801

Important Information

The propagation of nut trees is a highly specialized work and one that must be learned from the "ground up" if one is to succeed. These trees can not be propagated by ordinary methods as employed in the propagation of fruit trees, and even with the methods that I have perfected, results are always uncertain and not infrequently disappointing. The general nurserymen are not therefore propagating nut trees by budding or grafting and can hardly be expected to do so.



A fine specimen of the Black Walnut growing in Mass.

Facilities for Growing Nut Trees

I have gathered together here the largest and most valuable collection of new and rare varieties of nuts to be found. Owing to the difficulties encountered in the propagation of nut trees and especially in grafting with scions from old, bearing trees, working up Mother Blocks and stocks of trees is slow and expensive. My Mother Blocks, having been grafted direct from the original trees, have taken considerable time and expense to build up, but taking scions for propagation from these first generation, pedigree trees, insures both the genuineness of the varieties and early and prolific bearing of the trees. My soil and climatic conditions here are very favorable for the growing of this class of stock and I get here a very stocky tree with a well matured and well ripened wood growth that may be safely planted anywhere that nuts can be grown.

Growing Nut Trees with Superior Roots

Although conditions here are very favorable for both root and top development, we greatly improve the root system by an improved method of transplanting the young trees. These trees, as I grow them, have more compact and much better root systems. This adds considerably to the cost of the trees but is necessary if the trees are to be transplanted successfully later on. Such trees are not obtainable elsewhere.

Plant Only Budded or Grafted Trees

I am sometimes asked what are the advantages of budded or grafted trees over seedlings. The difference is the same as with fruit trees. Varieties of either fruit or nuts can only be perpetuated by budding or grafting. If we want a Baldwin apple orchard we do not attempt to grow the trees by planting Baldwin apple seed, because we know that these seedlings will not hold true to type or variety, and that fruit of all sizes, shapes and colors will be produced when the trees come into bearing. We also know that these seedling trees will vary as much in vigor and productiveness, as in the fruit borne, and that they will take two or three times as long to come into bearing as do the grafted or budded trees. The same applies to nuts and it would be just as reasonable to plant a seedling apple orchard as to plant a seedling nut orchard. The only difference is, grafted varieties of nuts have not been available till recent years and people have become accustomed to planting seedling trees. By growing grafted or budded trees of improved varieties of nuts, we put nut culture on the same plane with fruit growing and there is nothing in the orchard line that promises greater returns to the orchardist than the planting of these improved budded and grafted varieties.



One of my English Walnut Trees eight years old on the famous Grand View Poultry Farms, Aurora, N. Y. Be sure to read Mr. Wyckoffs' letter on page 22.



From photo of a 7-year grafted Pecan tree bearing its 5th crop of 14 lbs. on the grounds of Mr. J. F. Wilkinson, Rockport, Ind. Some of these Pecans, as grown by Mr. Wilkinson, shown on next page.

Hardiness of Nut Trees

I grow only hardy, northern varieties of nut trees. All trees offered are grown here in my Pennsylvania Nurseries and are perfectly hardy and reliable.

The extreme cold winter of 1917-18 was a severe test, but I did not lose any trees from frost and none had any protection whatever. Spring, 1918, many reports came in from customers expressing surprise and satisfaction with the hardiness of my hardy budded and grafted trees. Several customers in Michigan and New York reported that their English walnut trees from here went through the winter in good condition while apple trees suffered badly, many orchards being killed.



Northern Pecans as grown by Mr. Wilkinson. See preceding page.

Ornamental Value of Nut Trees

It seems hard for some people to get away from the idea that they must plant maples, poplars or other worthless trees simply because others are planting them, when nut trees are far more ornamental; make just as good shade trees, and in addition produce a bountiful supply of nuts for home use if trees of good budded or grafted varieties are planted.

What constitutes an ornamental tree? The two factors of prime importance, and which the landscape architect looks to especially, are beauty and rarity. He is willing to sacrifice much on the former, if a specimen is rare. If one goes into a well planted place, the trees and shrubs one sees every day are hardly noticed, but new or rare specimens attract one's attention at once. A lawn or home grounds planted with nut trees, will attract more attention than any other planting that can be made. The early bearing of the grafted trees enhances their attractiveness as well as their usefulness.

Shrubby or herbaceous plants can be planted between or around the nut trees the same as with other trees. These trees, being very deep rooted, will not suffer because of being near the shrubbery, provided the soil is fertile, and the shrubbery will do better near these trees than they will when planted near ordinary shade trees which root shallow and spread their roots over a wide area.



Gathering English Walnuts from a two-year tree in my test orchard.

Age of Bearing

One of the big advantages of budded or grafted nut trees over seedlings is their early bearing habit. Generally speaking, the budded or grafted trees begin bearing in one-third of the time required for seedling trees. We often have the improved English and black walnut trees to bear the third year and sometimes the second, and they may be counted upon to begin bearing nicely by the fifth year. The heart nut bears even younger, and it is not uncommon for these trees to bear a few nuts the second year.

The grafted pecan trees are no exception to the rule and bear in one-third of the time required for seedling trees. Visitors here the past fall, many of whom have been closely allied with the northern nut industry, expressed surprise at both the quality and the quantity of nuts borne on the young trees in my test orchard.

The hybrid hickories have proven early bearers and heavy croppers, exceeding my own estimates of them made earlier. These trees, like the pecan, are of rapid growth and quickly make trees large enough to bear profitable crops.

The Supply and Prices of Trees

As announced several years ago, my yearly plantings of nuts and nut stocks was greatly reduced due to the difficulty of getting labor and to other difficulties encountered in growing and selling these trees under "After-the-War" conditions. Digging the deep rooted nut trees is very slow and laborious work and men do not like to do it. This has weighed heavily against us in getting labor even at a high wage. As a result of this retrenchment policy, my supply of trees, while of better quality, is much smaller than formerly and, with the increased retail demand, the supply of most trees is entirely inadequate and will not go around. The only trees that I have any large stock of at this time are pecans. This is due to having a large stock of young seedlings of these on hand when the retrenchment policy was put into practice. While all of these trees may be needed for retail orders, I shall be glad to quote quantity prices on them while they last. Those wishing to plant nut orchards now should take advantage of the situation and plant their pecan orchards. Unless conditions change, these trees will probably not be grown in quantity hereafter, and in any case, it will take several years to work up a stock of them again, and those planting now can consider themselves fortunate in getting the trees to say nothing of the time gained in earliest planting.

Are Grafted Northern Nut Trees Appreciated?

It is only in the last few years that people in the northern states have begun to wake up to the advantages offered in the grafted nut trees and to appreciate what I have been giving them. This is due to the trees coming into bearing generally over the country. The seedling fellows are of course still on the job, but they are having much "harder sledding" than formerly, and with thousands of my grafted trees coming into bearing now and proving their superiority in every way, the decreasing demand for seedling trees will soon discourage the growing of these trees and they will be discontinued, just as happened with the pecan in the south and the English walnut in the west. Any nurseryman offering seedling pecan trees in the south or seedling English walnut trees in the west at the present time, would not only find no market for his product but would be held up to ridicule. This, when only a few years ago, seedling trees were advocated and largely planted. Even after grafted or budded trees were available in quantity many people listened to the seedling fellows who made extravagant claims for their trees, and planted seedlings, and the nurserymen growing these trees "died hard", after putting up a big fight in their defense, as these seedling trees, costing comparatively little to grow, were very profitable.

Being one of the original propagators of the pecan in the south and the first extensive propagator of these trees, both north and south, I am familiar with the development of the industry. The rapid development of the pecan industry and the profits now being derived from good orchards of budded or grafted trees, is a matter of common knowledge and it is needless for me to dwell upon that, but I am naturally proud of the part I contributed to its development. A few seedling fellows are still growing and selling seedling nut trees in the northern section but under variety names or otherwise trying to make the buyer think he is getting grafted or budded trees, and I would warn those buying nut trees to be sure they are getting grafted or budded trees of approved varieties before placing their orders.

Soil, Locations and Climatological Data

Some people seem to think that to succeed with nut trees requires some particular kind of soils or location. The fact is, most of the nut bearing trees are less exacting in their soil and climatic requirements than are our more common fruit trees, and these trees will often succeed where fruit trees would fail. This is especially true of the black walnut, heart nut and pecan. These trees are doing well in many cases on the heavy black soils of Ind., Ill., Iowa, Mo., and Kans., where few fruit trees can be grown, also on a great variety of soils, including light sandy soils, if the fertility of the soil is kept up.

THE BLACK WALNUT grows naturally from Canada to Florida, and from Maine to the Great Divide, and on about all kinds of soils and locations. The climate of Colorado is especially trying on trees but the black walnut is doing well there. My grafted trees are also doing well in Washington and Oregon.

The black walnut is one of our principle forest trees in the U. S. and will thrive with little or no attention as do other trees of the same type. This, when we consider the healthfulness and longevity of the tree, makes the planting of the black walnut one of the surest and most attractive propositions.

THE HEART NUT is a sport or variation from the Japanese walnut, *juglans sieboldii*. The tree is very hardy and does well from Canada to Florida, and it is believed it will do well anywhere the black walnut grows.

THE NORTHERN PECANS are as hardy as the other hickories and in this regard should not be confused with the southern pecan. In a wild or natural state, the pecan grows from Terre Haute, Ind., and Clinton, Iowa, on the north, to the Gulf Coast on the south. The tree grows in the river bottoms and will succeed on land that is too low and damp for most trees. Because of this, it was formerly thought that the tree required excessive moisture for success, but this was long ago disproven by the thousands of trees growing thrifly and bearing well on high and dry locations, and on a wide range of soils. The pecan has proven to do well on even light sandy soil, if the soil fertility is kept up, as well as on the clay and clay loam soils. The varieties I am propagating are from Indiana, Iowa and Mo. and the trees are perfectly hardy.

THE ENGLISH WALNUT, when budded or grafted upon the native black walnut or other hardy stocks, ripen their wood growth up earlier and better than do seedling trees and are therefore considerably hardier than seedling trees. Grafted on this stock, the tree is also adapted to a wider range of soils, but the tree is more exacting in its climatic requirements than is the black walnut or other native nuts. While the English walnut can be grown with more or less success in all the eastern, middle and southern states, (and I have good reports on both the growth and bearing from all these states) my opinion is that its cultural range for commercial orcharding will follow that of the sweet cherry in the eastern and northern states, and where the sweet cherry (Hearts and Bigarreaus) succeed, one need have no hesitation in making large plantings of my hardy budded and grafted trees. These trees are doing well in the lake region, from New York to Michigan; also in Mass. and Conn., as well as farther south, and mature their nuts well in the short seasons of these northern states, but on the heavy black lands from southern Indiana westward, their success is irregular and uncertain. The trees are doing well in Kentucky and in the Ozark mountains in Mo. and Ark. and should do well in Okla. Contrary to my earlier expectations, my grafted varieties of the English walnut are doing well in S. C., Ga., and Ala. and it is believed the hardy, late vegetating, Mayette and Franquette will prove to be a profitable commercial proposition in these states.

THE HYBRID HICKORY, Beaver, Laney, Fairbanks and Siers, being hybrids of the shagbark and bitternut, adapt themselves easily to a great variety of soils and climatic conditions. The bitternut hickory, one of the parents, is the most widely distributed of all our hickories according to Dr. Sargent of the Arnold Arboretum, and he says it is found growing naturally from the St. Lawrence River on the north to Florida on the south and westward to northeastern Nebraska, Oklahoma and Texas. The pure shagbark is strictly a northern species and does not grow very far south except along the mountain ranges, but these hybrids should succeed well into the Cotton Belt at least, if not to the Gulf Coast.

THE FILBERT OR EUROPEAN HAZEL is quite hardy and will succeed any where the English walnut will or possibly farther north. Like the English walnut, the filbert does not thrive in the Gulf Coast section or the so-called "Planes States" west of the Mississippi River, presumably because of the warmer summers, but it is doing fine generally in the Eastern U. S. and fruiting well, where the proper varieties are planted, as far north as Northern N. Y., Mich. and Canada. The principle commercial planting of the filbert to date have been in Oregon and Washington, but my observation and experience leads me to the conclusion that the filbert and its hybrids are destined to become one of our most profitable nuts to grow in the eastern U. S. The nuts ripen earlier here too and can be put on the market several weeks ahead of the western product.

Yields and Profit

I am sometimes asked what a pecan, English or black walnut tree will produce at a given age. No one can tell what any certain tree or trees will bear at a given age, because conditions are too varied, but we can estimate the crop in a general way. Good budded or grafted trees of good bearing varieties of these nuts, when properly planted and cared for till the trees are well established, will begin bearing about as early as the apple and should produce profitable crops as soon as the trees are large enough to carry good crops of nuts. On rich land, this should be about as early as the apple.

It is conservatively estimated that if one plant, say, 1000 good budded or grafted trees of the pecan, English or black walnut, (or some of each) and give the trees proper care till established, that they will return a net profit of at least \$3000.00 a year at 10 to 12 years of age and the yield will increase rapidly with the growth of the trees and should reach at least \$10,000 a year when the trees are in good bearing. If the nuts are cracked and the kernels marketed, the income should be considerably larger than this. It is felt that the above estimate is very conservative, and I believe that this is so, as I know several trees the crop of which sells for \$100.00 or more in a single year. Estimating an orchard on the basis of these trees, (and there is no good reason why we can't duplicate them or even beat them) profits would be very large, as the cost of growing is practically nothing, and the nuts, falling to the ground when ripe, are easily and cheaply gathered and are not perishable, but may be sold as they come from the trees or they may be cracked and the kernels sold at one's leisure, during the fall and winter months. Every year sees a large increase in the quantity of nuts cracked, and eventually they will be sold that way almost entirely. The average person will not eat very many nuts if they have to crack them, but if they are cracked and put on the market in a readily usable form, the demand will be practically unlimited. Remarkably efficient power crackers have been invented and are now in use cracking pecans, and it is believed that just as good ones will be devised for cracking good black walnuts and other nuts as soon as we have them in sufficient quantity to justify the manufacture of such machines. Eventually, nut crackeries will be in operation all over the country and those having a few hundred pounds of nuts or those who prefer to sell their product as they come from the trees, can dispose of their product readily and without the trouble of bagging and shipping them.

Some people, in investigating the possibilities in growing nuts, compare production and sales per acre with those of the best apple or peach orchards. Unless one knows what the fruit grower is up against in his fight with insect pests and diseases, the comparison is not a fair one. It is not what a crop sells for that determines the profit or the satisfaction of growing. With half the gross sales per acre, a nut orchard might show more net profit, and the crop is certainly more satisfactory to grow and handle. Also, the nut trees require comparatively little care or attention and are permanent, outliving several generations of fruit trees. When fruit is low in price, the fruit grower must go ahead with the necessary spraying, pruning, cultivation and thinning of the fruit, even though returns do not justify the expense, because if left to shift for themselves, fruit orchards are soon gone and the investment is lost. On the other hand, nut orchards, while the trees respond to manuring or added soil fertility, in increased growth and bearing, the trees will go along in good shape without, and if the land on which they are growing is naturally rich or has been previously made so by manuring or the growing of leguminous crops, the trees will continue to bear good crops of nuts without any further attention to soil fertility, at least for a number of years.

Mr. E. A. Richl, the noted Illinois nut and fruit grower, has a number of Thomas black walnut trees in bearing and wrote me in Dec. 1915 that he had sold all of his Thomas kernels at 80c per lb. wholesale, and as he got 10 lbs. of kernels to the bushel of nuts, he considered their growing very profitable. Later, Mr. Richl wrote me that if he was a younger man he would plant at least 1000 grafted Thomas black walnut trees.



Pecan Nut cluster, natural size, grown here.

My Pecan Trees Are Making Good!

The cut next page shows a partial view of my test orchard here, trees 5 to 7 years old. The cut above shows a nut cluster from one of these young trees, natural size.

Visitors here the past summer and fall were delighted with these trees and the fine clusters of nuts they were bearing, some of them asking why I had not urged more strongly the planting of these trees. My answer was that I had been doing this since 1912, but that most people were "From Missouri and had to be shown"! My grafted pecans are bearing and making good as far north as Aurora, N. Y.



View in my Pecan orchard here. Trees 5 to 7 years old.

BUTTERICK. From near Grayville, Ill. The old Butterick tree is one of the "giants," and has been bearing beyond the memory of the oldest inhabitants. The nut is one of the largest of the Indiana group and a real paper-shell of excellent quality. The original tree is a heavy and regular bearer. The Butterick combines large size, with a real paper-shell nut of high quality, and a rapid growing tree that bears very early, and is perhaps the best all round pecan of the Indiana group.

GREENRIVER. Originated in Henderson Co., Ky. The nut is medium size; shell thin; kernel full and plump and of the best quality.

INDIANA. From Knox Co., Ind. One of the largest of the Indiana pecans and one of the best. The nut is thin shelled, full meated and of very good quality. The tree is a very heavy bearer. One of the best pecans.

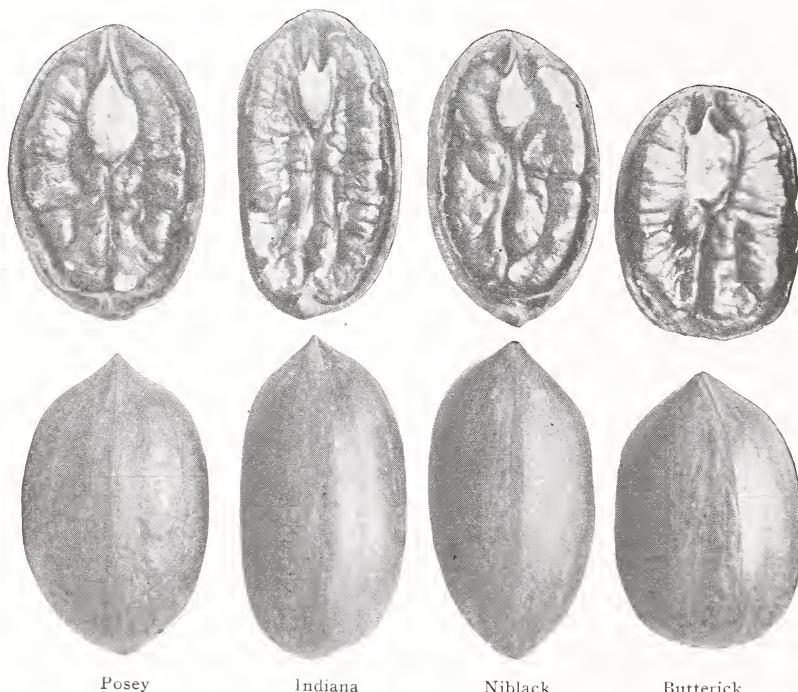
MARQUARDT. The Marquardt is perhaps the finest variety of the pecan-shellbark hybrids and, originating in Iowa, the tree is very hardy. The tree is a very rapid grower and very ornamental, and will succeed under neglect where most trees would fail. The nut, which is large and long, resembles the pecan more closely and is thin shelled and a good cracker. The kernel is very large, plump and the blending of the pecan-hickory flavor gives it a distinct and very delightful flavor. I can recommend this variety very highly for general planting.

NIBLACK. Originated in Knox Co., Ind. Named for Hon. Mason J. Niblack, Vincennes, Ind. Nut medium to large; shell very thin; kernel full and plump and of the very best quality. Cracking quality the very best.

POSEY. From Gibson Co., Ind. One of the largest and finest pecans of this group. The nut is very large and a real paper-shell. The cracking quality is the very best. The tree has very large foliage and is very ornamental.

BUSSERON. Supposed to be the parent of the Indiana pecan as the nuts are much alike as to size, shape and quality and the trees are growing not far apart. The Busseron is much the older and larger of the two trees. The old Busseron tree is said to be the greatest bearer of any pecan tree in the state of Indiana, making the variety a good one to tie to.

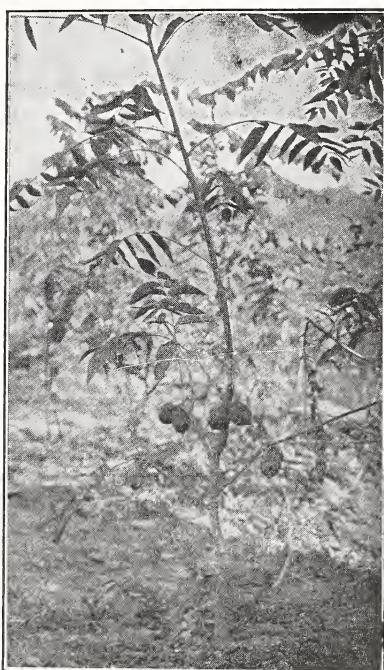
PLEAS HYBRID PECAN. This is a natural cross or hybrid of the pecan and Bitternut. The tree is a very rapid grower here and the prettiest of all the hickories. It is proving to be a good bearer here and the nuts are large and good. The shell is very thin and soft and the kernel large and of good quality.



PRICES	$1\frac{1}{2}$ to 2 feet	\$1.75 each or \$17.50 per dozen.
OF	2 to 3 feet	2.00 each or 20.00 per dozen.
PECAN	3 to 4 feet	2.25 each or 22.50 per dozen.
TREES	4 to 5 feet	2.50 each or 25.00 per dozen.
	5 to 6 feet	2.75 each or 27.50 per dozen.
	6 to 7 feet	3.00 each or 30.00 per dozen.

Large specimen trees, twice transplanted, for immediate effect and early bearing, write for prices.

The American Black Walnut



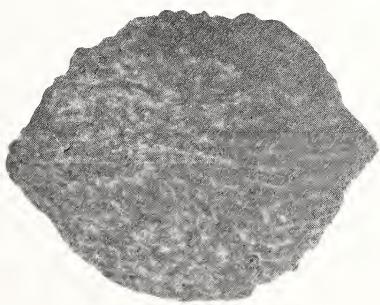
Grafted Black Walnut Tree Bearing Seven Nuts 17 Months after the Tree was Grafted

O H I O. From Northern Ohio, named and introduced by me. Nut medium to large; shell thin; kernel full of good quality. An excellent cracking nut, and the halves of the kernels can be removed entire in most cases. Tree a good grower and very early bearer.

STABLER. Originated in Md. One of the finest black walnuts and the best of all in cracking quality, the kernels being easily removed in halves. Nut medium size; shell thin; kernel full; rich, and of fine quality. A remarkably fine black walnut.

PRICES BLACK WALNUT TREES BUDDED OR GRAFTED

1 to 2 feet	\$1.75, dozen	\$17.50
2 to 3 feet	2.00, dozen	20.00
3 to 4 feet	2.25, dozen	22.50
4 to 5 feet	2.50, dozen	25.00
5 to 6 feet	2.75, dozen	27.50
6 to 7 feet	3.00, dozen	30.00



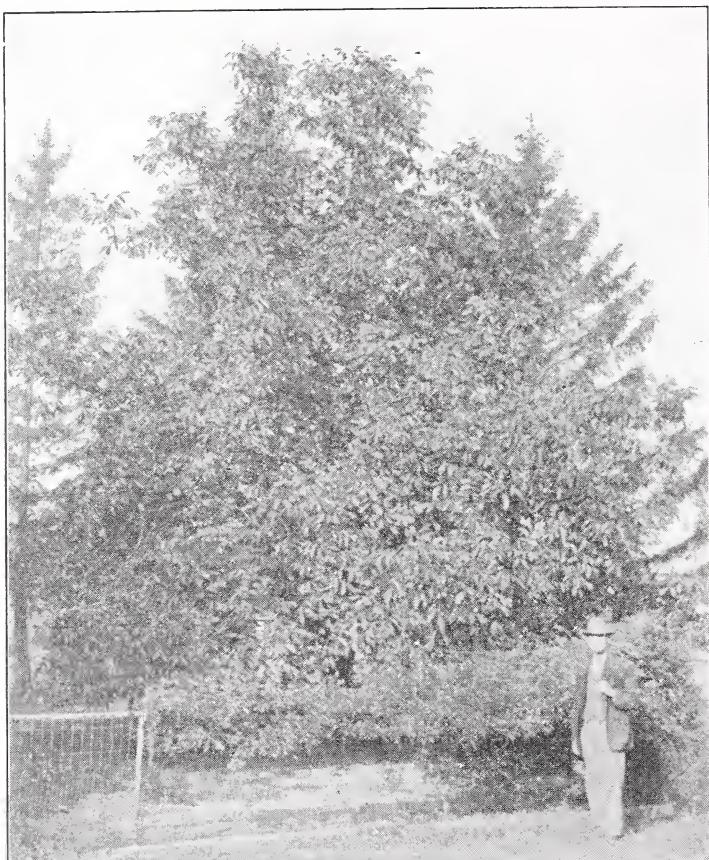
Ohio



Stabler

THOMAS. Originated with the late Jos. Thomas, King of Prussia, Pa. One of the finest black walnuts yet found and the best of all the large nuts in cracking quality. Nut very large; kernel large, light colored, and of very good quality. The tree is a wonderful grower, fully doubling the ordinary black walnut in growth.

TEN EYCK. Originated at So. Plainfield, N. J. The Ten Eyck is the thinnest shelled black walnut that we have. The nut is medium to large; kernel very full and plump and of very fine quality.



The above, from a photo, September, 1923, shows one of the 11 year English Walnut trees on the grounds of Mr. J. G. Rush. This tree bore three bushels of nuts.

My Hardy Grafted English Walnut Trees More Than Fulfilling My Claims!

These trees, in both hardiness and performance, have more than fulfilled my earlier claims for them;—claims that not only critics but perhaps some of my good friends felt were extravagant.

When I made the statement that the Pacific Coast States had no monopoly on this nut; that it could and would, be produced just as cheaply and of just as good quality in the eastern states, "Doubting Thomas!" there were aplenty who were more than willing to give every one the "Horse Laugh" who was foolish enough to even think of growing English walnuts in the eastern or northern states. They said that the trees could not be hardy, that they were tender even in California, and that even should they prove hardy, the trees would bear only a few inferior nuts. I no longer have to argue my side of the case, the trees are doing it for me!

THE ILLUSTRATIONS OF ENGLISH WALNUT TREES SHOWN ON THIS AND THE PRECEDING PAGE will be of unusual interest to many of my older customers and friends. Mr. Rush was the first to plant my hardy grafted English walnut trees and, being a pioneer grower of these trees in the eastern or northern states, his success in growing these nuts has been an inspiration to all those interested in the development of the industry. I had not gotten out a catalogue with new illustrations showing any of these trees for several years and doubtless many people will be interested to know how the trees are performing. Mr. Rush's first planting was a few trees of the first variety propagated, bearing his name and named and introduced by me. These were planted in 1905. These trees are bearing heavily, as are also his later plantings, the limbs bending with the weight of the crop the past fall. Mr. Rush got 40 cents per pound for the bulk of his crop on the local market. The nuts ripen here considerably ahead of the western crop, giving them an advantage in the markets, whether the nuts are sold locally or shipped. My trees are making good records for themselves generally and I have not been able to supply the demand for the trees for several years.



Section of the tree, closer view, shown on the preceding page. This tree was very heavily loaded, practically every twig bearing a cluster of nuts, but it is impossible to show these up in a photograph as the nut husks and leaves are the same color. Mr. Rush, shown in the foreground, is in his 81st year. He is evidently pleased with the crop!

The English Walnut

FRANQUETTE. One of the finest and most reliable walnuts both east and west. The leading market variety in Oregon and Washington. Tree very hardy and reliable. The nut is medium to large; shell fairly thin and the cracking quality very good indeed. The Franquette is a very fine flavored nut and is free from the bitter tannin found in some walnuts. My trees are of the Vrooman strain which is much the best of this type.

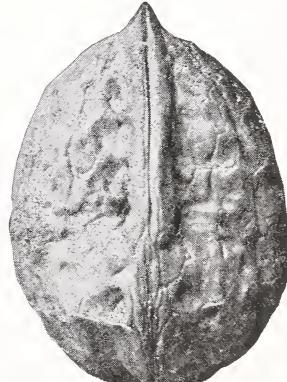
MAYETTE. An extra fine nut and fortunately, a very hardy and reliable tree. Mayette is perhaps the largest nut with a thin shell and smooth and attractive that we have. The shell is thin and soft so that the nuts are easily cracked by crushing in the hand and the quality is the very best, the large, white kernel being free from the bitter tannin found in many nuts. My trees are of the Wiltz variety which is by far the most reliable of this type. This variety is doing fine here and elsewhere over the eastern U. S. and is one of the few sorts that is perfectly self pollinating. The very large catkins (staminate bloom) hang a long time and shed an abundance of pollen.

EASTERN VARIETIES: I am not at present propagating any eastern varieties of the English walnut. Mayette and Franquette have proven just as hardy and more reliable, and are the finest in point of nut of any walnuts known. These varieties vegetate late and are never caught by frost, while the eastern varieties that we have had under propagation loose an occasional crop from frost.

CHINESE ALPINE WALNUTS: These trees, grown from large, fine nuts gathered especially for me by the Kinsan Arboretum, in the Mountains of North China, are the hardiest type of the so-called English or Persian walnut. The nuts sent me were very fine and I am anxious to see as many trees brought into bearing as possible. Out of some of them very valuable new varieties, harder than any yet known, may be obtained. These trees are exceptionally stocky and thrifty. They were dug with the whole roots and very carefully transplanted and have the finest root systems ever seen on walnut trees. Every tree should grow and thrive. These run about 1½ feet tall. Prices, two year seedling trees as above \$1.00 each; \$10.00 per dozen.



Wiltz Mayette



Vrooman Franquette

Prices of English Walnut Trees Budded or Grafted:

1½ to 2 feet	\$1.75 each or \$17.50 per dozen
2 to 3 feet	2.00 each or 20.00 per dozen
3 to 4 feet	2.25 each or 22.50 per dozen.
4 to 5 feet	2.50 each or 25.00 per dozen.
5 to 6 feet	2.75 each or 27.50 per dozen.

The Shagbark Hickory

The pure shagbark, while one of the finest of our native nuts and unsurpassed in flavor, is of such slow growth and takes so long to come into bearing that few people can be interested in planting it.

The following varieties are hybrids or crosses of the shagbark and the bitternut. Contrary to what one might naturally expect, the hybrids of these two species of hickory produce nuts remarkably fine in every way. Remarkable as it may seem, these hybrids seem to have inherited all the good points of both species and eliminated their faults. Like the bitternut parent, the trees are very rapid growers and very ornamental. The nut, which has all the good quality of flavor of the shagbark, has in addition the thin, soft shell of the bitternut. Many people have tested these nuts here the past two or three years and they have been practically unanimous in saying that the flavor of the nuts was extra fine. Many saying they were the finest shagbarks they ever ate. With all these good qualities, the trees bear very quickly, many of my grafts bearing nuts the third year and five or six year trees bearing excellent crops.

BEAVER. Originated in central Pennsylvania. The Beaver is one of the finest of this type and a very beautiful tree. The tree bears quickly and is very prolific. Perhaps the best of all these hybrids.

FAIRBANKS. From east central Iowa. One of the best of the type and very prolific. Tree very hardy and ripens its crop very early here.

LANEY. Named by Dr. Sargent for the Superintendent of the Rochester Parks, Mr. C. C. Laney. The original tree stands in the Rochester Parks and is a remarkably fine specimen. The nut has a very thin shell, nut full meated, and of excellent quality.

SIERS. Originated in Kentucky. This is a hybrid of the Mockernut and bitternut, but is equal to any of the above hybrids and is a very remarkable nut in every respect. The Siers should be of particular interest to Botanists. So far as I know no other tree of this parentage has been found.

Grafted trees of the above four varieties 1 to 2 feet, \$2.00 each; 2 to 3 feet, \$2.25 each; 3 to 4 feet, \$2.50 each; 4 to 5 feet, \$2.75 each, and 5 to 6 feet, \$3.00 each.

The European Filbert

My test orchard of filberts here, embracing over 30 varieties, planted as fillers in the pecan orchard, has proven of unusual interest and value in testing out varieties and working out the matter of pollination. It has been repeatedly stated by the Oregon and Washington growers that no variety of filbert is self pollinating and none will bear more than a few nuts planted alone without the aid of pollen from other varieties. My experience with them, embracing a large number of varieties, leads me to the same conclusion. I have selected just a few of the very best filberts that can be counted upon to cross pollinate and bear good and regular crops of the finest nuts.

FOR HOME USE the filbert is especially desirable owing to the high quality of the nut and the ease with which the kernel can be extracted. The plant, growing about the size of a peach or plum tree when grown, is ornamental and fits in well in odd places and among ornamentals.

FOR MARKET PLANTING the filbert appeals to those wanting quick returns especially as the plants begin fruiting almost as soon as planted. The plants live to be old and are adapted to permanent plantings or they can be used as fillers among larger growing nut or fruit trees for which purpose they are admirably adapted, as they begin fruiting quickly and soon produce profitable crops of nuts. The plants also stand considerable shade and bear good crops of nuts right under the larger growing trees. The cracking quality is, of course, the best of any hardy nut known, the kernels simply rolling

out in a solid lump ready to put in the mouth when the nut is cracked. The filbert is the richest in food value of all the hardy nuts, according to the analysis.

BARCELONA—A very large roundish nut. This is the leading commercial sort being planted in Oregon and Washington where it bears very large crops. Although it blooms early here, Barcelona is one of the best croppers I have. It blooms over a long period and needs two or three pollinators for the best results. Plant Aveline for early and Du Chilly or English to pollinate the later bloom. Tree very vigorous and makes the largest tree of all the filberts.

DU CHILLY—This is my favorite filbert of the European group. In the west it is said to not be nearly so strong a grower as Barcelona, but here it is one of the most vigorous growers and one of the heaviest bearers. The nut is very large and the kernel very large, clean and attractive and of the best quality.

KENTISH COB OR ENGLISH—This is one of the finest nuts and one of the best and most reliable filberts. It should be included in all collections.

WHITE AVELINE—Nut not very large, but the variety has so many good points it should be in all collections. The quality and flavor of the nut is superb, being clean and attractive, and always of the highest quality. One of the best pollinators to plant with Barcelona, also quite satisfactory for Du Chilly and English. It is a profuse bloomer and scatters its pollen over a large season than do most other varieties. Should be in all home collections and enough for adequate pollination at least in all commercial plantings.

Prices of fine, well rooted plants on own roots as follows:

1 to 2 feet, 75c each; dozen, \$7.50—Twice Transplanted, \$1.25 each.
2 to 3 feet, \$1.00 each; dozen, \$10.00—Twice Transplanted, \$1.50 each.
3 to 4 feet, \$1.25 each; dozen, \$12.50—Twice Transplanted, \$2.00 each.



English

Aveline

Barcelona

Du Chilly



Mr. and Mrs. Carl Weschcke, St. Paul, Minn., beside one of their young grafted Black Walnut trees bought from me spring 1922. Photographed September, 1924. Tree bearing four nice nuts.

WYCKOFFS GRAND VIEW POULTRY FARMS

Special Breeders of the Acknowledged World's Greatest Laying Strain
of the White Leghorn

Aurora, N. Y., January 10th, 1924.

Dear Mr. Jones:

"I am sending you two photos of trees that I think make quite a satisfactory showing.

The "close-up" of the individual tree showing "yours truly" standing by the side of it is a remarkable specimen for eight years, but we have many others just as good.

Aside from the value of these trees in producing the most delicious nuts, they are the most satisfactory shade trees that one could imagine for the poultry yard, producing a dense, cool shade that the fowls more than appreciate during the hot summer weather. While ordinary fruit trees give scanty shade and a long severe drought reduces the foliage to such an extent that they are almost useless, dry, hot weather has little or no effect upon the deep rooted nut trees.

The beautiful English walnut trees that we already have growing nicely have added thousands of dollars to the value of our farm. Visitors to the farm are greatly attracted and interested in these trees. So few people know or realize that these nuts will grow and do well anywhere the peach will live.

Signed: E. L. WYCKOFF.

Planting and Care of Nut Trees

It is important that nut trees be handled and planted carefully to get the best results. Keep the roots moist and expose as little as possible to sun or wind in handling. The holes should be dug amply wide to accommodate the roots and a few inches deeper than the roots are long. No manure or other coarse material should be used in the holes about the roots. A few handfuls of bone meal or tankage, mixed with the soil about the roots, will do no harm and will give good results. Only good top soil should be used in filling the holes, and this must be well firmed about the roots, while the tree is being planted by tamping with the spade or shovel handle or a tamping stick with a smooth, rounded end, that will allow the earth to be well tamped and at the same time, not bruise the roots. Most failures in transplanting are due to the planter not firming the earth well about the roots of the tree or from using water in the holes as the trees are being planted. If water is used and the soil handled while wet, it will harden and shrink away from the roots in drying. For the same reason, trees should never be planted soon after a heavy rain, or at any time when the ground is very wet. If trees arrive when the ground is very wet, heel them in or put in the cellar till the ground is in condition to plant. If the ground is dry, so much the better for planting, and trees may be watered after they are planted. Remove a shovel of earth on two sides of the tree, and a foot or more away; fill the holes with water and after this has soaked in, put the dirt back, leaving a loose mulch on top. If the clay is thrown out and away from the holes, and only top soil used in filling the holes,—taking this top soil from a circle surrounding the tree, when the tree is planted, it will be surrounded by a depression or basin a few inches below the surface level. This is a decided advantage, with such trees as the pecan, walnut and persimmon, as I have found by several years experience. These trees may be planted this way either spring or fall, and on any land not naturally wet. Trees planted in this way not only live better, but grow much faster, as the basin about the tree gathers both moisture and fertility during rains, and is eventually filled up with the most fertile soil. This method of planting is especially desirable where trees are to be grown without cultivation. It is possible, by this method of planting, supplemented with an annual mulch, to grow vigorous trees and profitable orchards easily and cheaply on rough, cheap land, that would be quickly ruined by erosion, if cultivated. By sowing sweet clover or other strong growing legumes, a plentiful supply of mulching material can be grown right where it is needed, and at the same time, the land improved and built up.

NUT TREES MUST HAVE THE TOPS REDUCED or cut back, either before or after planting. This forces an early and stronger growth and induces the formation of new feeding roots and the tree is well established in its new location much sooner. If the top over-balances the root system to any appreciable extent, the over-taxed roots will simply become exhausted and no new roots will form, with the result, that even though the tree may live, it will linger along several years before getting started. The top should be reduced one-half or two-thirds depending upon the size of the tree and its root system.

TRAINING THE TREES. A four or five foot tree, when cut back to two feet, will usually throw out several strong shoots, and this is just what is wanted. These shoots, being low, induce a quicker and stronger root formation and a sturdier tree. The head of the tree will not be wanted so low, but all growth should be allowed to remain until the tree is well established. The most vigorous shoot may then be selected and trained to form the future tree. This can be trained up-right, by tying to a stake where necessary. The tree should become well established in its new location by the end of the second growing season, when the surplus shoots may be removed and all of the sap thrown into the shoot selected to form the tree.

Full Direction for Planting Sent With all Shipments.

"The Crop of the Future"



A mile of trout stream where the deer come to drink and where experiments in nut growing are conducted.

Nut Growing

By Robert T. Morris

ILLUSTRATED WITH FULL PAGE HALF-TONES

Price \$2.50

J. F. JONES
NUT TREE SPECIALIST
Lancaster, Pa.

NUT GROWING

BY

ROBERT T. MORRIS

Dr. Morris has herein made the subject of nut growing both piquant and practical. It is high time, indeed, that American agriculturists awoke to the opportunities of nut culture, pulled away from tradition, and bent their energies to the cultivation and harvesting of a crop which for centuries has provided the old world with one of its staples of diet. We in America have yet to be initiated into the many palatable forms in which nuts may be introduced into the menu with a gain in nutrition, economy and health.

But Dr. Morris's book is not only an invitation into the field of our opportunities, it is a sound and lucid exposition of the methods of propagation of nut trees, the very latest processes of grafting, pruning and orchard care, and a description of the characteristics and habitats of the various species of trees. It is copiously illustrated with full-page half tones diagraming the successive steps in the procedure of grafting. The book should act as a stimulant to cultivators, firing them to extend the functions of agriculture into the very profitable province of nut culture.

NUT GROWING

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From Nut Growing by Robert T. Morris

THE THREE-FOLD VALUE OF NUT CULTURE

For Nutrition

"Nuts furnish starches, fats, and proteins, the three essential food elements. Different nuts furnish these essentials in varying proportions. Thus, almonds contain 21% protein, 54.9% fats, 17.5% starches, and 22% ash. Fresh chestnuts contain only 6% protein, 5.4% fats, but 42.1% starch and 1.8% ash. Peanuts contain 30.5% protein, 49.2% fats, 16.2% starch, 2.5% ash. These three kinds of nuts represent the characteristic varieties in the kinds of food material furnished by each one of the kinds. . . .

"Nuts furnish proteins of such fine quality that they supply the elements necessary to render more complete the proteins of cereals and other vegetable foods. They are free from such waste products as uric acid, urea, and carnine which go with meats. Further than that they are nearly aseptic and free from bacteria of putrefaction at the time when they are eaten. . . ."

For Economy

"Nut trees produce more of the food essentials *PER ACRE* than are furnished by ordinary field crops. . . .

"Nut crops require less labor and fewer hands for cultivation and harvesting the crop. . . .

"Distribution is facilitated by the fact that nuts are not perishable like meats and vegetables and we have plenty of time for gathering the crop and spreading it about over various markets. . . .

"Thousands of square miles of hilly land that are now being gullied as a result of raising meagre crops of annual plants may be put into tree crops and saved. . . .

For Beauty

"In the nut trees we combine the Greek ideal of utility with beauty, because nut trees are quite as beautiful as other trees. The reason why our parks, highways, and private grounds are not graced with nut trees instead of mere bunches of leaves (to which we accord freely enough an estimate of beauty) is that people have not stopped to think about it as yet. If people in this century were to think of everything all at once the people of 2000 years hence would have nothing to do excepting to mope around and devote themselves to ancestor worship. . . ."

Our Native Nut Trees

HOW THEY MAY BE

GRAFTED

Profitably

With the
Best Varieties of
Nuts

OUR wild native nut trees, as they grow naturally in field and forest, may be grafted successfully with the best improved varieties of nuts.

By grafting these native nut trees, whose roots are well developed and firmly established, and which do not have to be uprooted and moved, quicker results can be obtained than by transplanting grafted trees from the nursery. Nut trees are more difficult to transplant and establish than other trees. The superiority of grafted nut trees over ungrafted seedling trees is very great indeed. Slowness and uncertainty of bearing belong to the seedling not to the grafted nut tree, which bears as early as the apple tree, from three years on, according to the variety.

Hickories of all varieties, butternuts, black walnuts, Japanese walnuts, hazels and other nut trees that now bear ordinary or worthless nuts, may be made over, by grafting, into trees that bear the best known varieties of these nuts.

This is a development of recent years. The reason is that it is much more difficult to graft nut trees than ordinary fruit trees. Not long ago it was thought impossible. Even now there are few per-

sons who know how to attain success, because special skill and experience are needed.

On almost every country place there are some native nut trees, and on large farms and estates there may be hundreds, from the size of saplings to full grown trees. Any of these may be topworked, although the saplings are the most suitable.

Any variety of hickory, such as the shagbark, shellbark, pignut, bitternut or mockernut, may be grafted with such varieties of the shagbark hickory as the **Hales, Taylor, Kirtland, Vest** and others, or the remarkable hybria hickories **Weiker, Fairbanks, Laney, Beaver or Siers**. The pecan also grows readily on other hickories and is hardy, but the success of fruiting it in the North is still unproved.

On native black walnuts and butternuts, and on the Japanese walnuts, may be grafted the **Thomas, Ohio** and **Ten Eyck** black walnuts, the **Stabler**, the best cracking black walnut known, or the Japanese heart nuts.

By modern methods the season for grafting has been extended from April to July. Budding may carry it almost two months longer.

For best results in topworking nut trees they should be properly cut back while dormant. For this reason previous inspection of the trees is desirable.

The writer, who was the organizer of the Northern Nut Growers' Association, its secretary from the beginning, and who has had much experience in top-working nut trees, offers his services for this work.

Appointments may be made for field inspections and estimates.

Address

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Route 2

References by permission

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F. A. Bartlett Tree Expert Stamford Conn.

How to Succeed with Nut Trees

Because we see the black walnut, the pecan and the hickories growing in a wild or natural state, and occasionally bearing good crops of nuts, under adverse conditions, some people seem to think that these trees do not require any care or attention. While this is true as regards the trees when established, at least if they are planted on good land, the young trees should have some attention till they are established. When the trees are poorly planted on old, worn out land, and left to shift for themselves, failure will be the result, and the same is true of any other tree or trees. The principal requirements for success with nut trees is soil fertility. The nut tree is a natural engine of production and, with the help of sunlight and moisture, can turn the crude soil salts and fertility into a finished and highly concentrated food product, but we cannot expect the tree to produce large or regular crops unless the soil fertility is kept up, any more than we can expect the gas engine to run without gas or oil. However, it is not necessary or even advisable to delay the planting of the nut orchard because the land to be planted is not fertile. By using some good fertilizer such as bone meal or tankage, mixed with the soil around the roots in planting the trees, we can supply the fertility necessary for good tree growth at once, and very cheaply, as two or three quarts of this material is sufficient for average size trees, and by mulching the ground lightly around the trees with stable manure, grass, straw, leaves or other material, sufficient moisture can be maintained for good tree growth without cultivating the land. This annual mulch, rotting on the surface, quickly builds up the soil about the tree, and by growing Sweet Clover or other legumes the land can be built up to a high state of fertility with very little expense and while the trees are growing. Nut trees do not require cultivation and, being planted 40 to 50 feet apart, in orchard form, the young trees use only a small portion of the area for several years, and this gives ample time and opportunity to build up the soil in a natural way, and at the same time no time is lost in bringing the orchard forward. When these trees are planted on good farm land, one can continue to crop the land for several years if desired, and the distance given the nut trees in orchard form makes them little in the way of cultivating farm or truck crops for several years.

I mention Sweet Clover especially in connection with soil improvement, because, in my experience, it is the only legume that does well on old worn out or gullied fields. Sweet Clover is really a wonderful plant, as it not only takes well on poor, worn soils, but it will grow 6 or 8 feet tall. The unhulled seed is the best to use. We sow this at the rate of one-half bushel to the acre, right on the hard ground, without any preparation whatever, with excellent results.

UNSOLICITED TESTIMONIALS

West Grove, Pa., January 2nd, 1924.

Esteemed Friend:

"Will thee please send us another catalogue. We have one but it is an old one. We want to get some more Thomas walnut trees. We have two young trees and one had some nuts on and we are so pleased with them we want to get more trees, and so few nurserymen have them. They do not know what is good. We have plenty English walnuts. Had a lot of nuts this Autumn."

Signed E. Maule and Co.

Wrightstown, N. J., October 23rd, 1923.

"I bought a couple of English walnut trees two years ago. Could you spare me more this fall? They had nuts on this year and they are very nice.

Signed E. J. Bunting.

FOREIGN ORDERS: I have sent trees to China, British South Africa, Australia, New Zealand, etc., as well as to several European countries. I have several letters attesting to the good condition and subsequent growth of these trees, showing conclusively that these trees can be delivered in good condition in any part of the world.

